

CROPS BRANCH

2008 SPECIAL CROPS PROCESSORS SURVEY

FINAL REPORT

Survey Conducted by

Crops Branch

EXECUTIVE SUMMARY

The goals of the 2008 Special Crops Processors Survey are to gather data that will assist industry stakeholders in assessing the scope and characteristics of special crops processing in the province, and to provide primary producers with information about processors and the services they offer.

Survey results suggest that there has been considerable growth in business output and marketing pattern changes within the sector. With 29 per cent fewer facilities identified since the 2002 survey, substantial increases in the scale of production and consolidation has occurred over the last six years. Processing firms have become larger well-established commercial operations with more permanent employment. This has contributed immensely to increased economic activity in rural Saskatchewan.

NUMBER OF PROCESSORS

- There are an estimated 96 special crops processors in Saskatchewan, a 29 per cent decrease in number since 2002.

FULL-TIME EMPLOYMENT EQUIVALENTS

- There are an estimated 1,055 full-time equivalents of annual employment, a decrease of -0.4 per cent since 2002.
- The average number of full-time equivalents is 10.9 per processor, up 40 per cent since 2002.
- Total annual payroll for the sector is estimated at \$34 million, up 10 per cent (unadjusted \$) since 2002.

NUMBER OF EMPLOYEES

- There are an estimated 1,118 sector employees (full-/part-time, seasonal/non-seasonal), down 11 per cent from 2002 and the average number of employees per processor is 11.6, up 25 per cent from 2002.
- Employment in the year-round, full-time category increased to 90 per cent from 73 per cent in 2002.
- The proportion of processors with no year-round, full-time employees decreased to 5 per cent from 13 per cent in 2002.
- A small proportion (2 per cent) of processors has no employees at all, down substantially from the 8 per cent in 2002.
- Half (48 per cent) of all processors plan to expand within three years and 31 per cent plan to expand within one year.

CROPS PROCESSED

- The special crops most commonly processed are pea (73 per cent of processors) and lentil (63 per cent of processors).
- Canaryseed (38 per cent of processors) is now third and chickpea (33 per cent of processors) is the fourth most common.
- The percentage of firms processing a particular crop has increased since 2002 for nine of the 17 crops surveyed (quinoa +95 per cent, organic grains +58 per cent, caraway +27 per cent, dry beans +15 per cent, buckwheat +12 per cent, mustard +8.0 per cent, coriander +8.0 per cent, canaryseed +7 per cent, sunflower +6 per cent) but decreased for the others.

VALUE-ADDED ACTIVITIES

- The total volume of all processing activities is estimated at 5.9 million tonnes, up 7 per cent since 2002.
- Cleaning, bulk loading, and bagging make up most of the processing (93 per cent), down 4 per cent from 2002.

- While they are small relative to primary processes, two secondary processes showed large volume increases: splitting (515 per cent) and retail packaging (252 per cent).
- The average cleaning plant capacity is 15.8 tonnes per hour, a 60 per cent increase since 2002. The median capacity is 8.6 tonnes per hour. The majority (71 per cent of processors) have a capacity in excess of five tonnes per hour.
- Approximately two thirds of processors (67 per cent) purchase special crops, up from 36 per cent in 2002.
- More than half of processors (58 per cent) export special crops, up from 37 per cent in 2002.

TABLE OF CONTENTS

Executive Summary.....	i
1. Background.....	1
2. Purpose.....	1
3. Methodology.....	2
4. Survey Topics.....	2
5. Survey Results.....	3
5.1 Section A: Survey Population	3
5.2 Section B: Crops Processed.....	3
5.2.1 Most Commonly Processed Crops.....	3
5.2.2 Changes Since 1999.....	3
5.3 Section C: Economic Impact	5
5.3.1 Employee Full-time Equivalents	5
5.3.2 Number of Employees	6
5.3.3 Expansion Plans.....	7
5.4 Section D: Value-added Activities	8
5.4.1 Major Processing Activities.....	8
5.4.2 Secondary Processing Activities.....	8
5.4.3 Cleaning Rate.....	9
5.4.4 Marketing of Special Crops	10
5.5 Section E: Transportation	10
5.5.1 Shipping Methods	10
5.5.2 Rail Line Access	11
5.5.3 Road Access.....	11
5.6 Geographical Distribution	11

TABLES AND CHARTS

FIGURE 1: Disposition of Survey Population.....	3
FIGURE 2: Distribution of Processors by Crops Processed and Comparison to Prior Surveys.....	4
FIGURE 3: Comparison of Crops Processed – 1999 to 2008.....	5
FIGURE 4: Distribution of Processors by Employee Full-time Equivalents.....	6
FIGURE 5: Distribution of Total Number of Employees and Average per Processor	6
FIGURE 6: Distribution of Processors by Number of Employees	7
FIGURE 7: Processor Expansion Plans	7
FIGURE 8: Value-added Activities and Volumes (tonnes).....	8
FIGURE 9: Lentil Exports (1989-2005).....	9
FIGURE 10: Processors' Cleaning Capacity	10
FIGURE 11: Current Shipping Modes and Comparison to 2002	10
FIGURE 12: Proximity of Facility to Rail Line and Rail Company Involved	11
FIGURE 13: Road Access of Facilities and Average Distance from Primary Highway	11
FIGURE 14: Geographical Distribution of Special Crops Processors.....	12

1. BACKGROUND

In the past three decades, the increase in production of special crops in Saskatchewan has been dramatic. Saskatchewan farmers have adopted higher value crops to optimize their returns, to grow new crops to capture marketing opportunities, and to diversify their crop base to stabilize returns and facilitate complex crop rotations.

Saskatchewan farmers have been highly successful in diversifying their crop production. Recent reports from the Saskatchewan Ministry of Agriculture indicate that:

- Production of specialty crops reached 3.5 million tonnes in 2007, up from less than 0.3 million tonnes in 1982.
- The area seeded to specialty crops in 2007 was 5.5 million acres, up from about 395,000 acres in 1982.
- Two pulse crops – lentil and pea – accounted for only about 99,000 acres in 1982 compared to 4.3 million acres in 2007.
- The number of miscellaneous crop producers in the province increased from fewer than 4,000 in 1982 to nearly 20,000 in 2001.

Primary processing has developed in parallel with the increase in production of special crops over the past three decades. Value-added processing has been the recent focus of domestic agricultural policy and the special crops processing sector has emerged as a substantial component of value-added economic activity in rural Saskatchewan, with a proven job creation capacity.

As a result, information related to services provided by processors, and to the impact of their business on the economy of rural Saskatchewan, is of vital importance to all stakeholders in the special crops sector. This includes policy decision makers and research funding agencies. Gathering this data and distributing the information has been undertaken by the Crops Branch of the Saskatchewan Ministry of Agriculture, which conducted prior surveys of processors in 1995, 1999, and 2002.

2. PURPOSE

The purposes of the 2008 survey of special crops processors are three-fold:

1. To provide policy makers with a profile of the sector and an assessment of its needs, and to measure its economic impact on rural Saskatchewan.
2. To provide the industry with information about the scope and characteristics of special crops processing in the province.
3. To provide primary producers with information about the services offered by processors and where to access them.

3. METHODOLOGY

All known potential special crops processors were surveyed. Crops Branch supplemented its existing list of processors by surveying Saskatchewan Agriculture's Regional Agri-Business and Crops Specialists for recently established enterprises. Since the survey amounts to a census of special crops processors, the results should be considered representative of the sector.

A mail-back survey was used, combined with telephone follow-up to increase the response rate and identify the current business status of the survey population. Data entry, reduction and analysis were conducted using Microsoft Excel computer software.

4. SURVEY TOPICS

Section A identifies the names, mailing addresses, telephone numbers, and electronic addresses of processing firms. This information is essential to facilitate Crops Branch's communication with special crop processors.

Section B provides a profile of the special crops that are being processed by each firm, information vital to the Branch's database. Processors were asked if they processed the following crops:

- | | | |
|-----------------|-------------|------------------|
| • Lentil | • Dry Beans | • Sunflower |
| • Pea | • Coriander | • Safflower |
| • Chickpea | • Caraway | • Triticale |
| • Marrowfat Pea | • Quinoa | • Forage Seed |
| • Canaryseed | • Borage | • Organic Grains |
| • Mustard | • Buckwheat | • Other |

Section C deals with employment and expansion plans. Processors reported the number of employees they have in four categories: 1) year-round, full-time; 2) year-round, part-time; 3) seasonal, full-time; and 4) seasonal, part-time. They also indicated if they planned to expand within one year, expand within three years, or that they had no expansion plans.

Section D investigates processors' value-added activities. They reported the volumes of special crops they process in the following categories:

- | | | |
|----------------|--------------------|-------------------|
| • Cleaning | • Retail Packaging | • Milling |
| • Bagging | • Colour Sorting | • Feed Processing |
| • Bulk Loading | • Splitting | • Other |

Processors also indicated the capacity (tonnes per hour) of their seed cleaning plants and reported whether they purchase special crops and whether they export special crops.

Section E provides information about processors' transportation needs, including shipping methods used, proximity of facility to rail lines, and type of road access.

5. SURVEY RESULTS

5.1 SECTION A: Survey Population

A total of 159 processors were identified in the survey population as potential processors of special crops. Of these, a total of 96 can be considered current special crops processors, which represents a 29 per cent decrease in the number of active processors since 2002, following a six per cent increase from 1999 to 2002. Figure 1 shows the disposition of the survey population.

FIGURE 1: Disposition of Survey Population

Status	2008 Survey		2002 Survey	
	Number	%	Number	%
Processing Special Crops	89	56.0	132	72.1
Not Processing Special Crops	45	28.3	31	16.9
Not in Business	18	11.3	16	8.7
Could Not Contact	0	0.0	0	0.0
Business Getting Started	0	0.0	0	0.0
Refusal	7	4.4	4	2.2
Total	159	100.0	183	100

It is not surprising that the number of processors has decreased, following drought conditions in 2001, 2002 and 2003 and frost in 2004 resulted in a substantial decline in special crop production, which reduced demand for processing services in affected areas and added pressure to the business viability of some firms.

Major consolidation within the sector has resulted in the decline in population size of special crop processors. Part of the decreased population size is due to recent interest of processors to expand facilities to accommodate larger volumes resulting in an increased productivity and efficiency of processing plants.

5.2 SECTION B: Crops Processed

5.2.1 Most Commonly Processed Crops

- Crops most commonly processed are the major pulses – **pea** (73 per cent of processors) and **lentil** (63 per cent).
- Canaryseed continues to be processed by a substantial proportion of processors (38 per cent).
- The position of chickpea as the fourth most commonly processed special crop (33 per cent) is a function of the importance of sizing chickpea seed for the human consumption market and a reflection of its continued popularity among producers as a high value crop.

5.2.2 Changes Since 1999

Figure 2 ranks special crops by the percentage of processors processing the crop and compares this prevalence to the historic sector pattern. Figure 3 highlights graphically the changes since 1999.

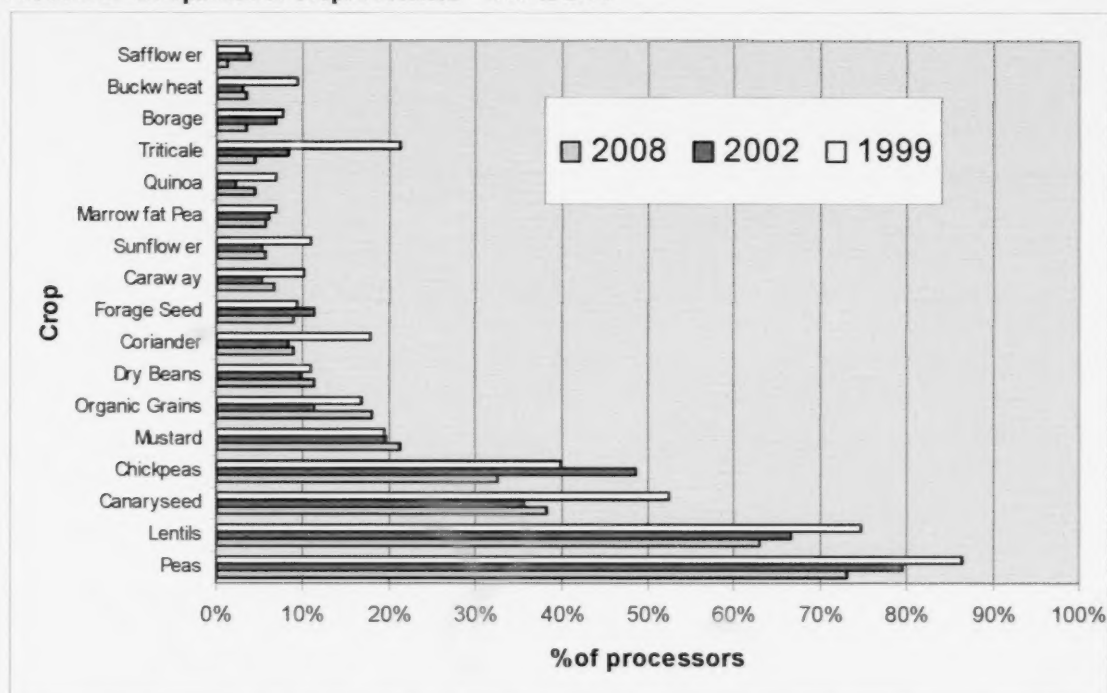
- The percentage of firms processing a particular special crop decreased for **all** crops except forage seed (23 per cent), chickpea (22 per cent), safflower (12 per cent), and mustard (one per cent) from 1999 to 2002. Among the four that increased, the significant changes are for forage seed and chickpea. From 1995-2002, forage seed has increased steadily in processing prevalence and chickpea has shown an astonishing rise in popularity as a processed crop.

- In the 2002 – 2008 period, forage seed and chickpea processing have significantly decreased, likely reflecting the market conditions of these two crops over the last year.
- The pattern for the 2002 – 2008 period, showed an increase in percentage processing for over half of the crops – quinoa (95 per cent), organic grains (58 per cent), caraway (27 per cent), dry beans (15 per cent), buckwheat (12 per cent), mustard (eight per cent), coriander (eight per cent), canaryseed (seven per cent), sunflower (six per cent), but decreased for the others.
- Among the crops that have increased, the significant changes are for organic grains and dry beans. Since 1995 the percentage of firms processing these crops has been quite volatile, with large increases and decreases occurring from 1999 – 2008.
- The most widely processed crops – pea and lentil – have declined in prevalence since 1999.

FIGURE 2: Distribution of Processors by Crops Processed and Comparison to Prior Surveys

	% of processors					Rank		
	2008	02-08 % Change	2002	99-02 % Change	1999	2008	2002	1999
Peas	73.0%	-8.1%	79.5%	-8.0%	86.4%	1	1	1
Lentils	62.9%	-5.7%	66.7%	-10.6%	74.6%	2	2	2
Canaryseed	38.2%	7.3%	35.6%	-32.2%	52.5%	3	4	3
Chickpeas	32.6%	-32.8%	48.5%	21.9%	39.8%	4	3	4
Mustard	21.4%	8.4%	19.7%	1.0%	19.5%	5	5	6
Organic Grains	18.0%	57.7%	11.4%	-32.5%	16.9%	6	6	8
Dry Beans	11.2%	14.7%	9.8%	-10.9%	11.0%	7	8	9
Coriander	9.0%	8.3%	8.3%	-53.4%	17.8%	8	9	7
Forage Seed	9.0%	-21.1%	11.4%	22.6%	9.3%	9	7	12
Caraway	6.7%	27.2%	5.3%	-48.0%	10.2%	10	14	11
Sunflower	5.6%	6.0%	5.3%	-51.8%	11.0%	11	13	10
Marrowfat Pea	5.6%	-7.9%	6.1%	-10.3%	6.8%	12	12	15
Quinoa	4.5%	95.2%	2.3%	-66.2%	6.8%	13	17	16
Triticale	4.5%	-45.9%	8.3%	-60.8%	21.2%	14	10	5
Borage	3.4%	-50.4%	6.8%	-10.5%	7.6%	15	11	14
Buckwheat	3.4%	12.3%	3.0%	-67.7%	9.3%	16	16	13
Safflower	1.1%	-70.5%	3.8%	11.8%	3.4%	17	15	17

FIGURE 3: Comparison of Crops Processed – 1999 to 2008



5.3 SECTION C: Economic Impact

5.3.1 Employee Full-time Equivalents (FTEs)

The numbers of employees reported by processors were converted into weighted estimates of full-time equivalents (or person-years) of employment by weighting the employment period categories as follows:

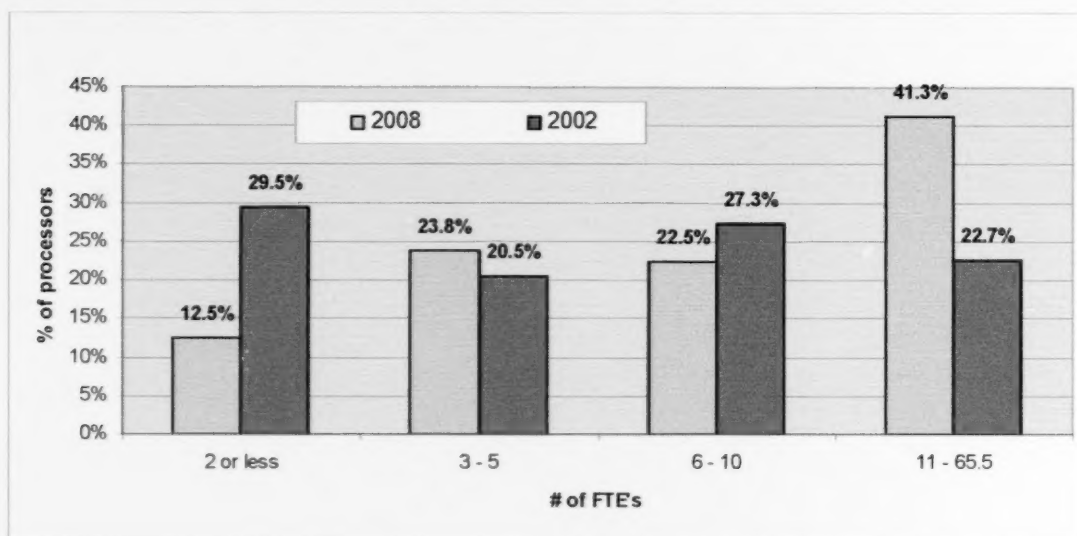
Year-round, full-time	1.00 FTE	Seasonal, full-time	0.50 FTE
Year-round, part-time	0.50 FTE	Seasonal, part-time	0.25 FTE

Using this method, the estimated total number of employment full-time equivalents in the sector is **1054.9¹**, a modest decrease of -0.4 per cent since 2002. The average number of FTEs per processor is **11.0**, up 41 per cent since 2002. By applying an average wage rate of \$15.62 per hour², total annual payroll for the sector is estimated at **\$34.27 million**, up 10 per cent (unadjusted \$) since the 2002 estimate of \$31.28 million. Figure 4 shows a substantial shift of FTEs toward the processors with larger numbers of employees.

¹ Refusals are included in economic estimates by imputing averages to these processors.

² Actual payroll amounts were not gathered from processors. Without detailed information about the distribution of job types (i.e. labourer, machine operator, manager, etc.) only a general estimate of the annual wages is possible. The base agricultural wage rate used in the 2002 survey was \$12.06 per hour (Saskatchewan Agriculture 2002 October Saskatchewan Farm Input Survey). The 2009 Saskatchewan Agriculture Crop Planning Guides puts the 2008 average farm wage rate at \$13.00/hr., an 8 per cent increase. Since 90 per cent of employees are year-round, full-time, it is very likely that average wage rates for processors' employees would exceed the agricultural labour rate. Thus, the \$14.20 per hour used for calculations in the 2002 survey, becomes \$15.62 per hour for the current analysis. Also, if the processing sector pays higher rates than farm labour rates, then the annual payroll of the sector might exceed the estimated \$34 million. On the other hand, the method of converting numbers of employees to FTEs may have slightly over-estimated the number of FTEs.

FIGURE 4: Distribution of Processors by Employee Full-time Equivalents



5.3.2 Number of Employees

The average number of employees per processor in the sectors has risen steadily since 1995 but in recent years has slightly decreased.

- The estimated total number of employees is **1,118**, down 11 per cent since 2002 and up 3 per cent since 1999.
- The average number of employees per processor is **11.6**, up 25 per cent from 2002 and up 35 per cent since 1999.

The overall employment pattern characterizes the sector as having well-established firms with on-going, non-seasonal marketing patterns.

- Employment is concentrated in the year-round, full-time category – 90 per cent of all employees (Figure 5).
- Analysis showed a mirrored reflection of this concentration, where only one firm in 22 (4.6 per cent) was found to have **no** year-round, full-time employees.

FIGURE 5: Distribution of Total Number of Employees and Average per Processor

Employee category	per cent of all employees		Average # employees	
	2008	2002	2008	2002
Year-round, full-time	89.8 %	72.8 %	10.5	6.7
Year-round, part-time	5.7 %	7.1 %	0.7	0.7
Seasonal, full-time	2.3 %	10.8 %	0.3	1.0
Seasonal, part-time	2.1 %	9.2 %	0.2	0.9
Total	100.0%	100.0%	11.6	9.3

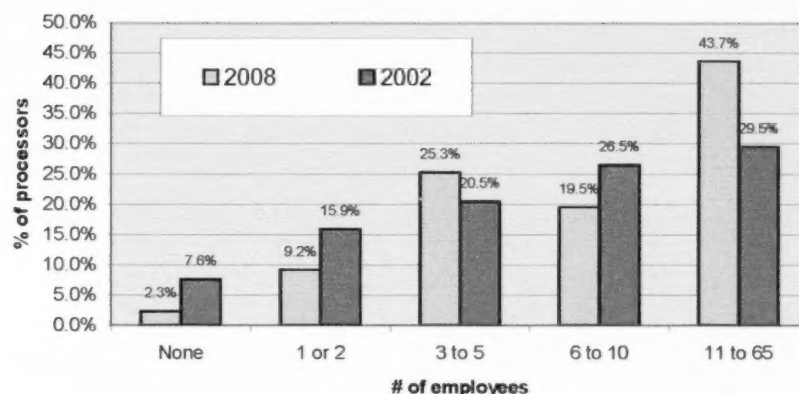
The employment pattern has remained relatively similar but has a few noticeable differences since 2002 (Figure 6).

- The proportion of processors with no employees decreased sharply since 2002, from 8 per cent to 2 per cent.

- The proportion in the medium-sized category (6 – 10 employees) decreased to 20 per cent from 27 per cent in 2002.
- The group with the largest number of employees increased (up to 44 per cent from 30 per cent) since 2002.

The shift toward a larger proportion of processors having more employees is likely a reflection of the substantial increase in operational scale reported in the survey, which is discussed in the Section D results below. Increased processing scale and sector output are having a direct effect on job creation in rural areas, resulting in a substantial (ten per cent, unadjusted \$) increase in the estimated sector payroll since 2002.

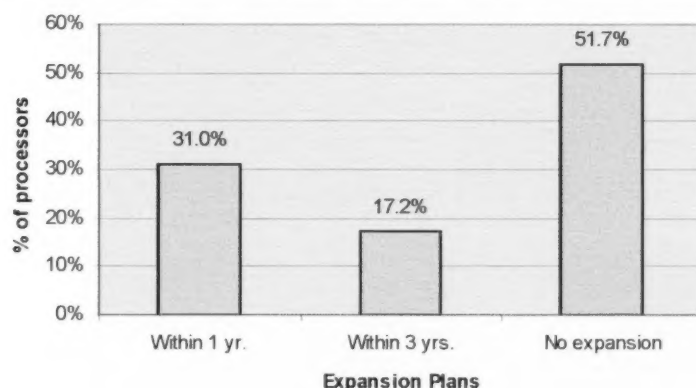
FIGURE 6: Distribution of Processors by Number of Employees



5.3.3 Expansion Plans

Figure 7 shows that nearly half (48 per cent) of all processors plan to expand within three years and more than three out of ten (31 per cent) plan to expand within one year. These business intentions are virtually unchanged since 2002 and are quite bullish. These plans are consistent with other survey results showing increased production scale and expansion of sector output.

FIGURE 7: Processor Expansion Plans



5.4 SECTION D: Value-added Activities

5.4.1 Major Processing Activities

The total annual volume of value-added processing is estimated at **5.9 million tonnes** (Figure 8), up seven per cent from 2002. Note that most of the cleaning volume is counted again among other categories, particularly bulk loading or bagging. The primary value-added activities in the sector continue to be cleaning, bulk loading, and bagging. These three processes account for nearly all types of special crops processing (93 per cent).

- Greater than nine out of ten processors (94 per cent) clean special crops.
- Almost half (46 per cent) of all processing is cleaning.
- Nearly three-quarters of processors (73 per cent) bag special crops.
- Nearly one-fifth (19 per cent) of all processing is bagging.
- Almost two-thirds of processors (59 per cent) bulk load special crops.
- Nearly a third (28 per cent) of all processing is bulk loading.

The average total volumes processed by each firm are substantial:

- The average annual cleaning volume is 26,313 tonnes per plant, up 20 per cent from 2002.
- The average annual bagging volume is 15,979 tonnes, up 45 per cent from 2002.
- The average annual bulk loading volume is 16,808 tonnes, up 10 per cent from 2002.

5.4.2 Secondary Processing Activities

Specialization among processors continues to characterize the secondary processing activities (other than cleaning, bulk loading, and bagging). Relatively few facilities are involved within each of these categories and some results have not been reported to respect small sample sizes. Changes in secondary processing activities since 2002 are noteworthy (Figure 8, bold).

FIGURE 8: Value-added Activities and Volumes (tonnes)

Value-added activity	% of processors		Total annual volume		
	2008	2002	2008	2002	Change
Cleaning	93.6%	93.2%	2,744,094	2,693,111	1.9%
Bagging	73.1%	69.7%	1,123,898	1,016,354	10.6%
Bulk Loading	59.0%	81.1%	1,647,809 ☼	1,632,413	0.9%
Retail Packaging	-	-	20,635	5,865	251.8%
Colour Sorting	-	-	116,000	115,500	0.4%
Splitting	-	-	197,004	29,193	574.8%
Milling	-	-	2,500	17,100	-85.4%
Feed Processing	-	-	3,000	5,150	-41.7%
Other	-	-	59,000	3,717	1487.4%
Total (imputed):			5,913,940	5,518,403	

☼ Includes 700,000 tonnes of bulk loaded product but not cleaned.

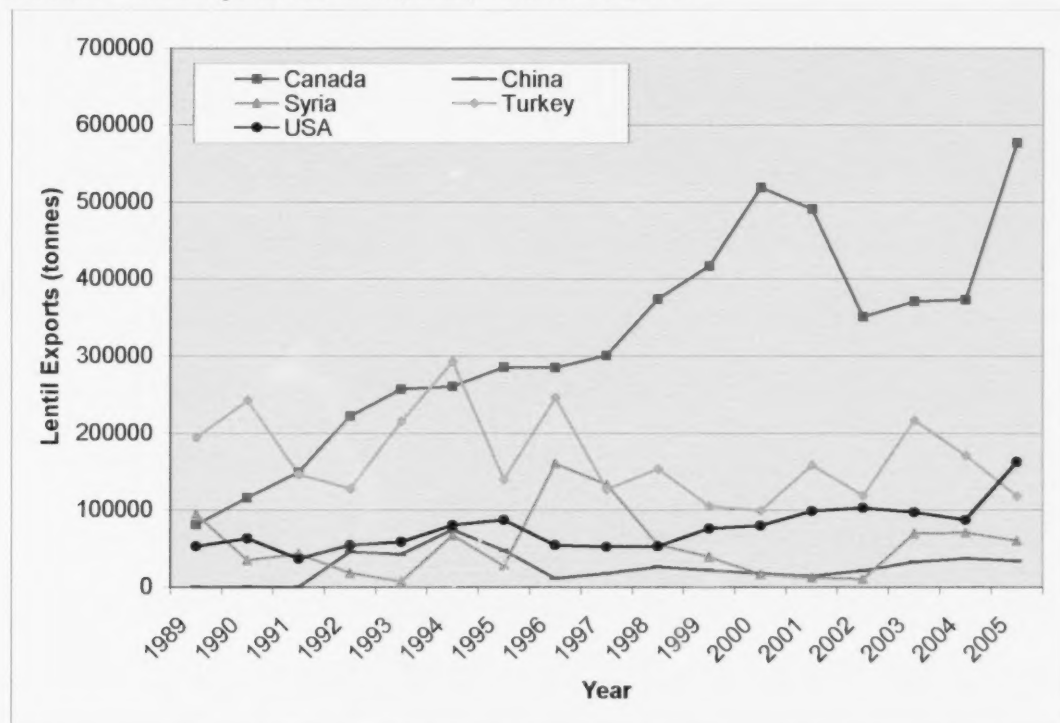
The amount of cleaning and the 700,000 tonnes of product that was bulk loaded but not cleaned, reported by processors in the 2008 survey is almost exactly the amount of the 2007 production (3.5 million tonnes). With added shift work and targeted expansion, sufficient cleaning capacity likely exists within the sector to handle even the record production of 2005 (4 million tonnes). The large increase in production over the past two and a half decades (+2,321 per cent) has been a primary driver for sector growth. During this long period of development the construction and expansion of processing facilities to meet the increasing

demand from primary producers has, in turn, stimulated more production of special crops since these facilities became a clearly identifiable, local market for increased special crops acres.

As seen in 2002, the large increases in secondary (food) processing activities such as retail packaging and splitting (Figure 8) suggest that opportunities existed and continue to exist in expansion and diversification of domestic and international market development for food products.

Canada has grown dramatically over the past two decades as a lentil exporting country (Figure 9), likely due to efficiency gains from on-going improvements in the technical base of production in the Canadian Prairies and expanded international market development.

FIGURE 9: Lentil Exports, 1989-2005 (tonnes) – Source: FAO 2008

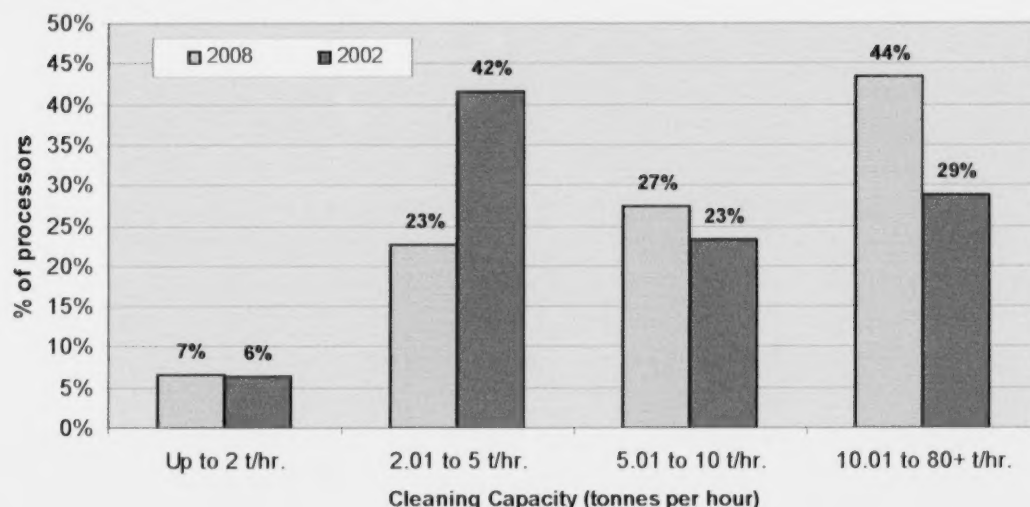


5.4.3 Cleaning Rate

The average cleaning rate of processors is **15.8 t/hr.**, up 60 per cent since 2002 (Figure 10).

- This is reflected in the large increase since 2002 (from 28.8 per cent to 43.5 per cent) in the proportion of processors in the largest category of cleaning capacity (> 10 t/hr.).
- The proportion of medium sized plants (five to 10 t/hr.) has also increased since 2002 (from 23 per cent to 27 per cent).
- Conversely, the proportion of smaller plants (< five t/hr.) has experienced a large decline, down from 63 per cent in 1999 to 48 per cent in 2002, and finally 30 per cent in 2008.
- Sector cleaning capacity is heavily weighted toward large-scale operations, as evidenced by the fact that the median cleaning rate of 8.6 t/hr. is substantially lower than the mean of 15.8 t/hr.

FIGURE 10: Processors' Cleaning Capacity



5.4.4 Marketing of Special Crops

- More than two thirds of processors (67 per cent) purchase special crops (up from 36 per cent in 2002).
- Nearly six out of 10 processors (58 per cent) export special crops (up from 37 per cent in 2002).

5.5 SECTION E: Transportation

5.5.1 Shipping Methods

Processors were asked to indicate what percentage of their exports is accounted for by each of a range of shipping modes (Figure 11).

- "Bulk truck" accounts for the largest proportion (24 per cent) of export output, followed by closely by "bulk hopper car" (23 per cent).
- Processors have significantly increased the use of "bulk truck" since 2002, resulting in a change of 508 per cent.
- Also reflected in 2002, the shipping methods "bulk container" (7 per cent), "bagged box car" (6 per cent), and "bulk box car" (1 per cent) continue to be the least utilized of all the selections.

FIGURE 11: Current Shipping Modes and Comparison to 2002

	% of shipping volume		
	2008	2002	02-08 % Change
Bulk Truck	24%	4%	508%
Bulk Hopper Car	23%	28%	-18%
Bagged Marine Container	21%	21%	-1%
Bagged Intermodal Container	18%	22%	-18%
Bulk Container	7%	13%	-48%
Bagged Box Car	6%	11%	-42%
Bulk Box Car	1%	1%	0%

5.5.2 Rail Line Access

Greater than half (51 per cent) of processors are located on a rail line (Figure 12). Among these, half (50 per cent) are on a primary line. The large majority (89 per cent) of service is provided, by CN (48 per cent) and CP rail (41 per cent) companies. Short-line railways account for the remaining service (11 per cent).

For those processors not on a rail line, the average distance from rail is 16.5 miles.

FIGURE 12: Proximity of Facility to Rail Line and Rail Company Involved

Rail proximity	% of all processors		Rail company	% of processors
Not on rail	49%	% among those with rail access	CN	48%
Primary	25%	50%	CP	41%
Secondary	13%	26%	Great Western	8%
Branch	6%	12%	Carleton Trail	3%
Short line	6%	12%	OmniTrax	0%
Total:	100%	100%	Total:	100%

5.5.3 Road Access

More than half (52 per cent) of processors are located on a primary highway and just below one-quarter (21 per cent) are located on a secondary highway (Figure 13). The average distance from a primary highway is 11 miles, ranging in distance from seven miles for those on grid or farm access roads to 16 miles for those on secondary highways.

FIGURE 13: Road Access of Facilities and Average Distance from Primary Highway

Highway access	% of processors	Average # of miles
Primary highway	52%	from primary highway
Secondary highway	21%	15.8
Grid road	25%	7
Farm access road	2%	6.5
	Overall average	11.1

5.6 Geographical Distribution of Special Crops Processors

While special crops processors are distributed throughout much of the province, there are fewer in the southern part, especially in the livestock-producing region in the southwest. The pattern has remained the same since 2002 as several processors are to be found in the sizable pulse, especially lentil producing area of west central Saskatchewan and Regina plains.

To some extent processors tend to be located along river systems, particularly the North and South Saskatchewan Rivers, a phenomenon that may be related to the location of suitable production conditions or major trading centers.

Figure 14 shows the geographical distribution of special crops processors. Note that the position of each processor is not exact. It shows only the number of processors within the rural municipality.

FIGURE 14: Geographical Distribution of Special Crops Processors in Saskatchewan

